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OXC - 0216

6 January 1960

MEMORANDUM FOR : Deputy Chief, Development Branch

SUBJECT : OXCART Items

1. Following are comments on some of the topics discussed in various papers acquired from Kelly Johnson on 16 December.

2. C.L.J. to R.M.B. letter 10 December 1959:

a. In this Kelly presents an estimate of aircraft fuel requirements and some remarks on engine run-up stand silencing among many other things. Kelly concludes that about 515,000 gals. of aircraft fuel will be needed each month. This is based on a 70% aircraft availability and 9 flights per aircraft per month. This is of course related to total number of aircraft procured. This seems high to
25X1A [redacted] and myself. Present experience indicates an availability of approximately 75% and about 4 flights per month per aircraft. Because of a much more complex vehicle we probably won't do even that well. In any event it would be a long time before building up to a maximum fuel requirement. Fuel requirements for ground vehicles and standard jet fuel are not included above. If Bayol D or equivalent is used by A-12 this must be kept uncontaminated by other hydrocarbons.

25X1A9a
b. [redacted] and I agree that distance is the most economical noise suppressor. In Florida the noise seemed tolerable to me while standing in the open between two J-58's running at about full afterburner. My ears were protected by ground crew type ear protectors. At 200 ft. the noise was barely tolerable without ear protectors. At about 1,000 ft. with the direct sound path blocked by a cinder block wall the noise was quite tolerable without ear protectors. A couple of U shaped
25X1A6a revetments could be bulldozed out across the runway from the building area [redacted] A concrete slab might be needed to prevent dust but the only water requirement is flow from about ½" I.D. pipe to prevent spalling of the slab. This is used at West Palm Beach.

3. LAC Report on Auto Pilot and Inertial Navigation System: 25X1A9a

25X1A [redacted] seems ok choice for auto pilot. Before agreeing to some source for inertial navigation system, [redacted] and I would like to query Kelly on system requirements (including tanker) and his consi-
25X1A deration of [redacted] work on F108, B-70, Minuteman, and Hounddog. After that we may:

agree with him, or
25X1A get him to agree to [redacted] or
get proposals from [redacted].

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The complicating factors are:

Kelly's inclusion of auto pilot and exclusion of navigation system in cost estimates.
close tie between navigation and auto pilot systems.

4. LAC Report on Air Conditioning:

25X1A5a1

No comment except to note RMB's request to Kelly to get bid from [redacted] which he has not yet done.

5. LAC data on manpower and W/T tests:

Aerodynamic data obtained so far gives no cause for either dancing in the streets nor deep despair. Data are satisfactory so far but tests reported so far do not extend to complete design conditions, e.g.:

25X1D -- test Mach number of [redacted] actual

-- yawing moments obtained only with tail off configuration

25X1D -- neutral point of wing/body/nacelle (Extrapolated) was 2% aft of zero elevator angle trim point @ [redacted] and 4-5% aft [redacted]
25X1D with original configuration.
NOTE: this condition improved by changed nose configuration.

25X1D -- L/D maximum corrected for nacelle spillage and extrapolated to [redacted] may be 6-7% below expected value.
NOTE: per photo of W/T model tests were run without nacelle inlet spike.

-- payload weight/range/altitude trade off curves don't cover most interesting case, namely range loss at no altitude reduction. These are:

payload weight	range loss
25X1D [redacted]	

25X1A9a [redacted]

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